

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number
WO 2005/015207 A2

(51) International Patent Classification⁷: **G01N 33/50**

(74) Agent: GERVASI, Gemma; NOTARBARTOLO & GERVASI S.p.A., Corso di Porta Vittoria 9, I-20122 MILAN (IT).

(21) International Application Number:
PCT/EP2004/051726

(22) International Filing Date: 5 August 2004 (05.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
RM2003A000386 5 August 2003 (05.08.2003) IT

(71) Applicant (for all designated States except US): ISTITUTO NAZIONALE PER LE MALATTIE INFETTIVE "LAZZARO SPALLANZANI" IRCCS [IT/IT]; Via Portuense 292, I-00149 ROMA (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): POCCIA, Fabrizio [IT/IT]; Via Maria Grandinetti 52, I-00125 ROMA (IT). GIOIA, Cristiana [IT/IT]; Via Tommaso Arcidiacono 203, I-00143 ROMA (IT). AGRATI, Chiara [IT/IT]; Viale di Vigna Pia 26, I-00149 ROMA (IT). MONTESANO, Carla [IT/IT]; Via della Allodole 12D, I-00169 ROMA (IT). AMICOSANTE, Massimo [IT/IT]; Via Laiatico 24, I-00138 ROMA (IT). CASETTI, Rita [IT/IT]; Via Torino 28A, I-00033 CAVE (IT). D'OFFIZI, Gianpiero [IT/IT]; Via Marcallè 9, I-00199 ROMA (IT). HOREJSH, Douglas [US/IT]; Via del Lavoro 108, I-00043 CIAMPINO (IT). MARTINI, Federico [IT/IT]; Largo Giuseppe La Masa 3, I-00149 ROMA (IT). CAPOBIANCHI, Maria Rosaria [IT/IT]; Via Donna Olimpia 20, I-00152 ROMA (IT). PUCILLO, Leopoldo Paolo [IT/IT]; Via Sirte 25, I-00199 ROMA (IT). PERRONE DONNORSO, Raffaele [IT/IT]; Viale Liegi 14, I-00198 ROMA (IT). IPPOLITO, Giuseppe [IT/IT]; Via Ottavio Ragni 15, I-00194 ROMA (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

Published:

— without international search report and to be republished upon receipt of that report
— with sequence listing part of description published separately in electronic form and available upon request from the International Bureau

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND DIAGNOSTIC TESTS BASED ON FLOW CYTOMETRIC ANALYSIS OF ANTIGEN-SPECIFIC T LYMPHOCYTES

(57) Abstract: The present invention provides a method for the immuno-diagnosis of diseases with different aetiology (infectious diseases, tumors etc) by measurement of the T cell response J, B and NK lymphocytes) induced by a set of diseasespecific antigens. The method is based on the quantitative determination of antigenspecific T lymphocytes (referred as Ag-Sp), stimulated by using a newly devised pathology-specific antigen or epitope compositions which represent further embodiments of the invention. After stimulation, the selective measurement of the Ag-Sp T lymphocytes is performed by: A) monoclonal antibodies recognizing membrane structures of T lymphocytes and of their sub-populations; B) monoclonal antibodies binding to cytokines accumulating at intracellular level after the stimulation with the antigen; or C) mixtures of A) and B). The flow cytometric detection of the presence of markers of differentiation on T lymphocytes and of intracytoplasmic cytokines allows the acquisition of both qualitative and quantitative results. The invention also provides diagnostic kits for performing the method of the invention.



WO 2005/015207 A2